

BONCZOS, Laszlo, dr.; FODOR, Anna, dr.; GOMBAS, Bela, dr.; KLEBERT, Lajos, dr.

Occupational diseases of persons working with chromium with special regard to the injuries of the mucous membranes in the upper respiratory tract. Munkavedelem 10 no.1/3:36-38 '64.

1. Ganz-MAVAG Factory Dispensary.

CH

THEORETICAL DETERMINATION OF THE CONSTANTS OF SOLID KRYPTON. Paul Combes. *Math. nature. Inc. angur.* *Abd. 1912. 35, 108-110 (1917).* In the calcn. the van der Waals energy is expressed by a new formula discussed in detail by Neugbauer (*C. A. 31, 5211*). The results of theoretical calcns. are: 4.2, A. (exptl. 3.05) for the lattice const. λ , and 2.04 kg.-cal./mol. (exptl. 2.4) for the heat of sublimation S of K_2 . S. de Finlay

AS 6.354 METALLURGICAL LITERATURE CLASSIFICATION

The contraction of organic chain molecules. P. Gomláš
 and T. A. Hoffmann (Hung. Univ. Tech. Sci., Budapest).
J. Chem. Phys. 18, 563-4 (1950).—Theoretical. Some
 mech. properties of org. chain mols., e.g. polypeptides, are
 derived from quantum-mech. concepts. These properties
 may help explain the contraction and relaxation of muscle.
 It is assumed that N atoms alternate with time between
 neutral atoms and N^+ ions, with a corresponding change
 in the type of bond and in the shape of the chain. Thus,
 change of all N^+ to neutral N shortens the chain to 0.92
 times its original length. If every 2nd N^+ were changed to
 N, the chain, neglecting steric effects, would curl into a ring
 with a diam. 7.7 times the length of the CCN^+ group.
 Hence, a chain contg. 24 CCN^+ groups would contract
 to a ring with a diam. 0.33 times the original chain length.
 Steric effects, e.g. the spin orientation of H and O atoms,
 cause the chain to twist into a helical curve. Interaction
 between adjacent chains and electron mobility in the chain
 are also considered. T. H. Dunkelberger

CA

The equation of state of the alkali metals P. Gombás
(Univ. Tech. Wissenschaften, Budapest). *Ann. 73717-9*
70-4(1951).—G's. theory of the alkali metals (C.I. 43,
4954) is extended to apply to temps. above abs. zero and
pressures greater than zero. H. P. Knauss

Ivanenko, D. Gomba's, P. Statistical theory of the atom and its application. P. 319

SO: Uspekhi Achievements in Physical Sciences, 43, No. 2 (Feb. 1951)
(Bibliography)

CA

2

The pressure-volume and pressure-compressibility relation of metals. P. Gombás (Univ. Tech. Sci., Budapest). *Phys. Rev.* 81, 267(1951); ref. C.A. 42, 1007i.—The formula for the compressibility is corrected. G. M. Petty

GOMBAS, P.; GUROV, K.P., redaktor; BARABANOVA, N.Ye. [translator];
LUKASHEV, V.N. [translator]; IL'IN, B.M., tekhnicheskiiy redaktor

[Many-particle problems in wave mechanics; theory and solution
methods] Problema mnogikh chastits v kvantovoi mekhanike (teoriia
i metody reshenia). 2-e izd. Perevod s nemetskogo N.B.Barabanovoi
i V.N.Lukasheva. Moskva, Izd-vo inostrannoi lit-ry, 1953. 276 p.
[Microfilm] (MIRA 7:9)
(Wave mechanics)

GOMBAS, P.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Electronic Phenomena and Spectra

W. Weissacker's inhomogeneity correction to statistically calculated kinetic energy. P. Gombas (Univ. Budapest). *Acta Phys. Acad. Sci. Hung.* 3, 165-25 (1953) (in German).
An error is made for electron gas if the Fermi kinetic energy and the inhomogeneity correction are added, since the kinetic self-energy of the free particle is counted twice. A method for correcting the error in a simple case is described.
George M. Murphy

10/18/54

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000515930001-7

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000515930001-7"

"Mathematical methods applied in research on theoretical physics in the light of methods of quantum mechanics."
Kozlemenyei, Budapest, Vol 3, No 3, 1953, p. 329

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

GOMBAS, P.

USSR/Nuclear Physics - Statistical Theory

Mar 53

"Statistical Theory of Atomic Nuclei," P. Gombas

Uspehi Fiz Nauk, Vol 49, No 3, pp 385-448

Translation, into Russian, of a Hungarian article that appeared originally in Acta Physica Hungarica, Vol 1, No 4 (1952), the articles of which usually are written in German, French or English. Discusses the principles of (a) statistical method for studying a free nucleonic gas and its kinetic energy, and (b) calculation of nucleon interaction. Derives the energy of interaction of a nucleon gas; discusses the saturation property of exchange forces, a statistical model of the atomic nucleus, and a statistical nucleus with constant density of nucleons; computes the density and energy distribution of a nucleus by the Ritz method and applies results; compares with results of the wave-mechanical computation. 184

COMBAS, P.

Hungary

CA: 47:12013

Hungarian Univ. Tech. Sci., Budapest

"Difference between the density distributions of neutrons and protons in
atomic nuclei."

Nature 171, 979-80 (1953).

"APPROVED FOR RELEASE: 06/13/2000

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539.152.1
8148. The statistical theory of the nucleus. III.
P. GOMIS, E. MAGORI, B. MOLNAR AND E. SZABO.
Acta phys. Hungar., 4, No. 3, 267-72 (1955) In
German.

The density distributions and energies for $A = 16, 80, 200$ were calculated using the same variational method as in Abstr. 6690, 8991 (1952), but for a 2-body interaction of exponential or Gaussian type. The former gives the best fit with empirical mass defects. The corresponding density is roughly Gaussian at $A = 16$, but at $A = 80$ and $A = 200$ a central depression has developed. W. J. SWiatecki

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GOMBAS, P.

Hungary/Atomic and Molecular Physics - Physics of the Atom, D-1

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34252

Author: Gombas, P., Szeppfalusy, P.

Institution: Physics Institute, University of Technical Sciences, Budapest, Hungary

Title: On the Substantiation of the Semiempiric Slater Atomic Eigenfunctions

Original Periodical: Acta phys. Acad. sci. hung., 1955, 5, No 2, 259-263; German;
Russian resumé

Abstract: Gombas introduced earlier a supplementary repulsion potential G , representing an analytic expression of the Pauli principle in the statistical-model approximation. Introducing this potential makes it possible to disregard the orthogonality conditions of radial functions with equal orbital quantum numbers, and consequently, to use the nodeless approximation of the function of the Slater type. In this work, the Schroedinger equation, supplemented by the potential G , is used to substantiate the empirical choice of effective principal quantum number n^* suggested by Slater. From the symmetry conditions of the Fermi momentum sphere for the supplementary potential, the expression $G = -n_r(n_r + 1)/2r^2$, where n_r is the radial quantum number, is obtained. G and the centrifugal energy $l(l+1)/2r^2$ are averaged

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Hungary/Atomic and Molecular Physics - Physics of the Atom, D-1

Abat Journal: Referat Zhur - Fizika, No 12, 1956, 34252

Author: Gombas, P., Szepfalusy, P.

Institution: Physics Institute, University of Technical Sciences, Budapest, Hungary

Title: On the Substantiation of the Semiempiric Slater Atomic Eigenfunctions

Original Periodical: Acta phys. Acad. sci. hung., 1955, 5, No 2, 259-263; German;
Russian resumé

Abstract: over 1 and the resultant quantity is compared with the Slater potential. The effective principal quantum number n calculated in this manner is shown in the Table together with n and n^* . The considerable difference for $n = 5$ and $n = 6$ is due to the fact that the averaging is carried out over all l , while the states with $l \geq 3$ are practically never encountered. If these are disregarded, we obtain for $n = 5$ and $n = 6$ $\bar{n}^1 = 4.22$ and 5.08 respectively.

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CIA-RDP86-00513R000515930001-7"

GOMBAS, P.

Hungary/Atomic and Molecular Physics - Gases, D-7

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34454

Author: Gombas, P., Kunvari, O.

Institution: Physics Inst. of the University of Tech. Sciences, Budapest

Title: On the Equations of State of Atoms of Inert Gases Ne, Ar, Kr, and X at Absolute Zero Temperature

Original Periodical: Acta phys. Acad. sci. hung., 1955, 5, No 3, 339-354; German; Russian resumé

Abstract: Based on the Thomas-Fermi Model, refined by introducing the exchange and correlation energy, an equation of state is derived for the crystals of Ne, Ar, Kr, and X at absolute zero. The crystal is treated as a system of densely-packed atoms with the coordination polyhedron replaced by a sphere. The results are given in the form of a table and of graphs.

1 of 1

- 1 -

Hungary/Atomic and Molecular Physics - Physics of the Atom, D-1

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34251

Author: Gombas, P.

Institution: Physics Institute, University of Technical Sciences, Budapest, Hungary

Title: On the Distribution of Electron Density in the Statistical Model of the Atom, Supplemented by Correction for the Kinetic Energy

Original Periodical: Acta phys. Acad. sci. hung., 1956, 5, No 4, 483-502; German; Russian resumé

Abstract: The fundamental statistical equation, supplemented partly by more correct allowances for the kinetic energy (Referat Zhur Fizika, 1956, 3551) can be solved accurately numerically for the atoms of the noble gases Ne, Ar, Kr, and X and further used to determine the density of the electrons as a function of the distance from the nucleus. This density remains constant at the location of the nucleus, and at large distances from the nucleus it diminishes exponentially. Both results are in very good agreement with the results of quantum mechanics and signify a considerable correction to the distribution of the densities as given by Thomas-Fermi and by Thomas-Fermi-Dirac, since these distributions have singularities at the location of the nucleus, and furthermore, the first of them is characterized at large distances from the nucleus by very slow approach to zero, while the second is characterized by a sharp decrease of the density from the finite value to zero. The density, determined in this work, has advantages also over that calculated with allowances for the original Weizsaecker correction, as illustrated by an example using the argon atom.

P. Gombás

The arrangement of electrons according to the main quantum number in the statistical theory of the atom. P. Gombás (Univ. Tech. Sci., Budapest): Acta Phys. Acad. Sci. Hung. 5, 803-10 (1956) (in German).—Following the subdivision of momentum space into spherical shells of equal thickness (C.A. 49, 4304i) the Pauli exclusion principle is replaced by a new form of addnl. potential which is simply related to a simplified potential introduced by Slater (C.A. 24, 5604). Based on this relation the above division of momentum space can be refined and the empirically well-known fact that states with lower azimuthal quantum nos are energetically preferred can be derived without an addnl hypothesis.

E. M. L. 111

Pauli

0005

GOMBAS, P.

Hungary/Nuclear Physics - Structure and Properties of Nuclei

C-4

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33975

Author : Gombas, P.

Institution : University of Technical Sciences, Budapest, Hungary

Title : On the Interaction Between Heavy Atomic Nuclei and Nucleons

Original

Periodical : Acta phys. Acad. sci. hung., 1956, 5, No 4, 511-516
(German; Russian resume)

Abstract : On the basis of statistical consideration, expressions are obtained for the densities ρ_n and ρ_p of the nuclei in a nucleus and of the potentials V_n and V_p between the neutron or the proton with a heavy atomic nucleus with closed shells. For preliminary purposes, curves are given for the relationship between the values $\rho = \rho_n + \rho_p$, V_n , and V_p on the distance r to the center of the nucleus; values on the order of 10 to 15 Mev were obtained for the depth of the potential well.

Card 1/1

GOMBAS, P.

HUNGARY/Nuclear Physics - Structure and Properties of Nuclei CIA-RDP86-00513R000515930001-7

Abs Jour : Ref Zhur - Fizika, No 3, 1958, No 5431

Author : Gombas, P., Szepfalusy, P., Magori, E.

Inst : The University, Budapest, Hungary

Title : Statistical Theory of Atomic Nuclei. Part IV.

Orig Pub : Acta phys. Acad. sci. hung., 1957, 7, No 2, 251-245

Abstract : Unlike the previously developed quantitative statistical nuclear theory (Gombas, P. Acta sci. hung, 1952, 1, 329), based on the Yukawa interaction law $J = -(\gamma/r-r^1) (\exp[-r-r^1/r_0])$, with the quantity and the nucleon density considered as variational parameters, a calculation is performed in which r_0 is also considered a variational parameter. It turns out that the energies of the nuclei and the radii become refined in this case in a slight degree compared with the preceding calculations, in which r_0 was assumed to be equal to $h/M_\pi c$, where M_π is the mass of the meson. See also Referat Zhur Fizika, 1956, No 4, 9723.

Card : 1/1

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CIA-RDP86-00513R000515930001-7"

Gombas, P.

COUNTRY : Hungary B-3
 CATEGORY : Physical Chemistry--Atom
 ABS. JOUR. : RZKhim., No. 14 1959, No. 48433
 AUTHOR : Gombas, P. and Ladanyi, K.
 INST. : Hungarian Academy of Sciences
 TITLE : The Calculation of Ionization Energies

ORIG. PUB. : Acta Phys Acad Sci Hung, 8, No 3, 301-303 (1958)

ABSTRACT : The authors have used an earlier developed statistical model (RZhKhim, No 22, 1956, 70872) in the calculation of ionization energies; the electrons in the model are grouped according to principal quantum number. The calculated values for the first three ionization potentials of Ar are in satisfactory agreement with the experimental values.

Authors' summary

CARD: 1/1

B-3

Abs Jour : Ref Zhur Fizika, No 10, 1959, 22297
 Author : Gombas, P.
 Inst : University for Technical Sciences, Budapest, Hungary
 Title : Perturbation Calculations in the Expanded Statistical Model of the Atom
 Orig Pub : Acta phys. Acad. scient. hung., 1958, 8, No 3, 305-314

Abstract : Account is taken in the statistical model of the atom for the correction for the kinetic energy, proposed by Weizsacker (Referat Zhur Fizika, 1957, No 3, 6172). Corresponding explicit expressions are obtained for the perturbation energy of the first and second order, and also an expression for the perturbation electron density in the first order.

Card 1/1

HUNGARY/Atomic and Molecular Physics - Physics of the Atom.

F

Abs Jour : Ref Zhur Fizika, No 8, 1959, 17552

Author : Gombas, P.

Inst : University for Technical Sciences, Budapest

Title : Contribution to the Statistical Theory of Compressed Atoms.

Orig Pub : Acta phys. Acad. scient. hung., 1958, 8, No 3, 321-358

Abstract : It is shown that the statistical theory of compressed atoms, which takes into account the Weizsacker correction, differs greatly from the Thomas-Fermi and the Thomas-Fermi-Dirac theories. In particular, as the pressure increases, the energy of the atom does not increase monotonically, as in the Thomas-Fermi and Thomas-Fermi-Dirac theories, but first decreases, passes through a minimum, and then starts again to increase very strongly.

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HUNGARY/Atomic and Molecular Physics - Physics of The Atom.

D

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000515930001-7

Abs Jour : Ref Zhur Fizika, No 8, 1959, 17552

These results, in the author's opinion, required a review of the relation between the pressure and the density, derived from the Thomas-Fermi and Thomas-Fermi-Dirac theory. -- A.I. Osipov

Card 2/2

7 21
✓ The bending of the nitrogen molecule as given by the
statistical theory. P. Gombás (Univ. Budapest, Hung.).
Z. Physik 152, 387-401 (1958).—Theoretical-math. A
bond energy of 20 e.v. was calcd. for the N_2 mol. by means
of the statistical theory of the atom, with consideration of
Weissacker's correction for the interaction of atoms in
homopolar molts. Rudolf Nitsche.

GOMBAS, P.

Calculation of polarizabilities. I. ~~Fresatoma~~ P. Gombas (Univ. Tech. Wias., Budapest). *Acta Phys. Acad. Sci. Hung.* 10, 101-10 (1959) (in German).—The polarizabilities of Ne, Ar, Kr, and Xe are calcd. on the basis of a perturbation method involving a kinetic-energy correction developed previously (*Acta Phys. Acad. Sci. Hung.* 8, 305 (1958)). The values for Kr (2.89×10^{-24} cc.) and Xe

(3.10×10^{-24}) agree satisfactorily with the exptl. values. The values for Ne and Ar are too high but if the wave mech. electron d. is used in place of the statistical electron distribution, agreement is better. George A. Hall, Jr.

HUNGARY/Atomic and Molecular Physics - Physics of the Molecule.

D

Abs Jour : Ref Zhur Fizika, No 4, 1960, 8265

Author : Gombas, P.

Inst : Physics Institute, University of Technical Sciences,
Budapest

Title : Statistical Treatment of the N_2 Molecule

Orig Pub : Acta phys. Acad. Scient. hung., 1959, 9, No 4, 461-469

Abstract : On the basis of a statistical model of an atom, with allowance for the Weizsacker correction, the author calculates the binding energy of the N_2 molecule. A computation procedure is described in detail. The calculated binding energy ($D = 10.9$ ev) is in good agreement with the experimental value ($D = 9.762$ ev), while the calculated equilibrium distance between nuclei ($\delta_0 = 1.39 \text{ \AA}$) is approximately 30% higher than experimental value ($\delta_0 = 1.094 \text{ \AA}$).

Card 1/1

GOMBAS, P.

Statistical theory of the nucleon gas at arbitrary temperatures. P. Gombas and D. Kadi (Univ. Budapest). Z. Physik 136, 135-30 (1953).—Theoretical-math. A statistical theory for the nucleon gas at arbitrary temp. is developed and the basic system of equations is derived. For the interaction of the nucleons a linear combination is used of Wigner, Majorana, Heisenberg and Bartlett forces.

R. Nitsche

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2-4E3C

GOMBAS, P.

Calculation of polarizability. II. Dependence of polarizability on atomic volume. Acta phys Hung 11 no.2:201-203 '60. (EEAI 9:10)

1. Physikalisches Institut der Universität für Technische Wissenschaften, Budapest.
(Polarization) (Atoms)

GOMBAS, P.

Distr: 4E2c(m)

/ Theory of metallic Ag. P. Gombás (Univ. Budapest, Hung.). *Z. Naturforsch.* (3a, 631-64 (1968)). — The Gombás theory of the metallic state (CA 46, 8403d) is used to calc. the lattice const., lattice energy, sublimation energy, compressibility, and pressure-d. relations of Ag at abs. zero temp. Although empirical parameters are not required for the balcn., the theoretically calcd. results agree well with empirical data. The influence of neighboring ions results in repulsive energy, which cannot be neglected as in the case of alkali metals. F. Schomberger

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672

GOMBAS, P. (Budapest)

Data on the correlation energy and correlation potential of an electron gas. Acta phys Hung 13 no.2:233-239 '61.

1. Physikalisches Institut der Universitat fur Schriftleiter Technische Wissenschaften, Budapest, und Acta Physica Academiae Scientiarum Hungaricae.

GOMBAS, P.

On the deduction of the fundamental equation of the statistical theory of the atom. Acta phys Hung 13 no.4:455-460 '61.

1. Physikalisches Institut der Universität für Technische Wissenschaften, Budapest.

GOMBAS, Pal

On correlation correction of the statistical atom model. Acta phys
Hung 14 no.1:83-90 '62.

1. Physikalisches Institut der Universität für Technische
Wissenschaften, Budapest; Redakteur, "Acta Physica Academiae
Scientiarum Hungaricae."

GOMBAS, Pal

"Fundamentals of modern physics" by Robert Martin Eisberg. Reviewed by Pal Gombas. Acta phys Hung 14 no.1:92 '62.

1. Editor, "Acta Physica Academiae Scientiarum Hungaricae."
Physikalisches Institut der Universitat fur Technische Wissenschaften,
Budapest.

GOMBAS, P.; SZONDY, T.

Higher approximations of the statistical atom model in which electrodes are grouped according to the principal quantum number. Acta phys Hung 14 no.4:335-340 '62.

1. Physikalisches Institut der Universität für Technische Wissenschaften, Budapest, und Forschungsgruppe für Theoretische Physik der Ungarischen Akademie der Wissenschaften, Budapest. 2. Redakteur, "Acta Physica Academiae Scientiarum Hungaricae" (for Gombas).

~~COMBAS, Pal~~ (Budapest); OBERT, Teodor [translator]

Present state of the statistical atom theory. Pokroky mat fyz
astr 8 no.2:81-88 '63.

GOMBAS, Pal

"Group theory and its applications to physical problems" by
Morton Hammermesh. Reviewed by Pal Gombas. Acta phys Hung
16 no.2:183 '63.

1. Editor, "Acta Physica Academiae Scientiarum Hungaricae."

GOMBAS, Pal; KISDI, D.

Statistical theory of atomic nuclei. Pt.5. Acta phys
Hung 17 no.1/2:261-269 '64.

1. Physikalisches Institute der Universitat fur Technische
Wissenschaften, Budapest, und Forschungsgruppe für Theoretische
Physik der Ungarischen Akademie der Wissenschaften, Budapest.
2. Redakteur, "Acta Physica Academiae Scientiarum Hungaricae"
(for Gombas).

GOMBAS, Pal; SZONDY, T.

Higher approximations of the statistical atomic model in which electrons are grouped according to the principal quantum number. Pt.2. Acta phys Hung 17 no.3:371-378 '64.

1. Physikalisches Institut der Universitat fur Technische Wissenschaften, Budapest, und Forschungsgruppe fur Theoretische Physik der Ungarischen Akademie der Wissenschaften, Budapest.
2. Redakteur, "Acta Physica Academiae Scientiarum Hungaricae" for Gombas).

GOMBAS, Sandor

Multipole connectors made by the Watch Factory. Finommechanika 3
no. 1:13-14 Ja '64.

GOMBAS, Sandor

DA 114 type connecting sleeves made by the Watch Factory.
Finommechanika 2 no. 12:378 D '63.

GOMBAS, Tibor

Role of Donat Banki in the development of internal cr' tion en-
gines. Jarmu mezo, gap 6 no.9:265-274 '59.

CA

3

Mechanism of conduction in gelatin-dye phosphors.
Lajos Gombay (Univ. Szeged, Hung.). *Acta Univ. Szegediensis, Acta Chem. et Phys.* 2, 211-3 (1930) (in German).
Expts. were conducted with thin foils ($10 \times 10 \times 0.1$ mm.) of gelatin phosphors. Some samples contained 10^{-4} to 10^{-5} g. Rhoduline Orange N/ml. dry gelatin. Both foils and blanks were treated 20 days with a 250-v. elec. current. Microphotos show that migration occurs primarily in a colloidal form; the colloidal particles later accumulate around a combustion center resulting in minute granules which can become visible at the pos. pole. The accumulation on the pos. pole was considerably weaker in pure gelatin than in gelatin contg. the dye. Neg. ions migrated in such gelatins to the anode. The expts. proved that a gelatin dye phosphor is a mixed conductor, being simultaneously a metallic-type and an electrolytic conductor. I. F.

1957

GOMBAY, L.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Electronic Phenomena and Spectra

(2)
Variations in thermal electromotive force in gelatin-dye phosphors. L. Gombay (Univ. of Szeged, Hungary). *Kolloid-Z.* 133, 40-4 (1953). Measurements were made on phosphors prepd. from Rhodulin Orange N (C.A. 35, 3902) at concns. of log C (g. dye/cc. dry gelatin) = -1.5 to -4. With the warm electrode at temps. between 20° and 90° c.m.f. was pos.; above 100° neg. with respect to pure gelatin. At higher dye concns. (log C = -0.5 to -1.0) the e.m.f. was neg. over the entire temp. range. The phosphors of greatest phosphorescence (log C = -2 and -2.5) had the largest pos. and neg. e.m.f. values. Phosphors exposed to sat'd. water vapor at 20° for 24 hrs. showed nearly the same values as those kept under normal humidity conditions. Phosphors dried at 100° for 24 hrs. showed effects of the same sign but greater value than the normal ones. Thus over the range log C = -1.5 to -4 the e.m.f. for normal and moist phosphors was $0.8-1.3 \times 10^{-3}$ v., and for dried phosphors $2.8-3.3 \times 10^{-3}$ v. These are max. values occurring at approx. 65°. The results show that these phosphors (and also pure gelatin) are semiconductors of mixed type. The app. is described. P. E. Braid.

JP 9/17/54

HUNGARY / Physical Chemistry. Crystals.

B

Abs Jour : Ref Zhur - Khimiya, No 12, 1959, No. 41477

Author : Gombay, L.; Steiner, F.

Inst : Not given

Title : Photonegative Effect of PbSe Layers
upon the Addition of Ag

Orig Pub : Acta phys. et. chem. Szeged., 1955, 1,
No 1-4, 9-14

Abstract : Upon the study of the time cycle of the
photon current i_p falling on the PbSe powder
layers containing 0.1% Ag, the photonegative
effect (PNE) was observed. Immediately af-
ter the illumination, the layers' resis-
tance increases to several thousand ohms,
and after several weeks increases further

Card 1/3

8

HUNGARY / Physical Chemistry. Crystals.

B

Abs Jour : Ref Zhur - Khimiya, No 12, 1959, No. 41477

by approximately a factor of 10. Subsequently the resistance changes very little and reaches its maximum value after one year. Afterwards it decreases very slowly. PNE grows more intense upon the decrease of the wave length λ . At $\lambda < 0.58 \mu$ only PNE was observed. An empirical formula of its dependence on t , which indicates that the process consists of two independent and superimposed effects, has been devised. The two effects are: usual photon conductivity and partial neutralization of the cavities by the activator's electrons, excited by the light of an appropriate wave length. In order to induce PNE, the presence

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HUNGARY / Physical Chemistry. Crystals.

B

Abs Jour : Ref Zhur - Khimiya, No 12, 1959, No. 41477

of many cavities, that is of the photoconducting material, is necessary. The formula described well the extinction of the photon current, which fact indicates the similarity of both of these phenomena. The authors explain PNE mechanism by means of a sectional semiconductor model.
-- V. Ostroborodova

Card 3/3

COMBAY, L.

Decomposition process during the evaporation of cadmium sulfide powders.
In German.

p. 28. (ACTA UNIVERSITATIS SZEGEDIENSIS) Vol. 2, no. 1/4, 1956
Szeged, Hungary

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

Gombay, L.

HUNGARY/Physical Chemistry - Crystals.

R.

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 458C3

Author : L. Gombay, N. Marek

Inst : Academy of Sciences of France.

Title : Photoelectric Properties of Semiconductor Prepared by Sulfidizing Vaporized Cd Coating.

Orig Pub : Acta phys. et chem. Szeged, 1956, 2, No 1-4, 34-38

Abstract : A method of preparing thin photosensitive CdS films of large surface area is proposed. A film of CdS 10 μ thick is dusted by evaporation on a quartz surface in vacuo, after which Cd is incompletely sulfidized in H₂S at 400°, the resistivity being checked simultaneously. After the heating at 400° the excessive Cd diffuses into the layer imparting the normal photosensitivity S to it. The curve of the spectral distribution of S has

Card 1/2

HUNGARY/Physical Chemistry - Crystals.

B.

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 45803

a maximum at 510 m μ , which coincides with the maximum in the cases of monocrystals and dusted films. The temperature dependence of the dark, as well as of the photoconductivity is described by the equation $\delta = A \exp(-\Delta E/kT)$, where the energy of photoconductivity activation $\Delta E_p = 0.2$ ev, and the energy of dark conductivity $\Delta E_d = 1.5$ ev. The value of ΔE_p is considerably less than in the case of the dusted CdS film (Veith W., C. r. Acad. sci. (Paris), 1951, 230, 947). The maximum of the photoconductivity "thermo-de-excitation" curve is at 320°, which corresponds to the depth of the capture levels of 1.2 ev (instead of 0.6 ev in the case of a monocrystal). The concentration of capture centers is about $1.9 \cdot 10^{16}$ cm $^{-3}$, i.e., close to that of a monocrystal (RZhKhim, 1955, 9127).

Card 2/2

HUNGARY/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 9, 1958, No 20696

Author : Gombay L., Gyulai J., Leng J.
Inst : Institute for Experimental Physics, The University, Szeged,
Hungary.
Title : On the Determination of the Concentration and Mobility of
Current Carriers in Semiconductors of the Mixed Type.

Orig Pub : Acta phys. Acad. sci. hung., 1957, 8, No 1-2, 203-209

Abstract : A method is developed which makes possible determination of the concentration and mobility of electrons and holes in semiconductors with mixed conductivity from measurements of the conductivity, the Hall constant, the thermal emf, and measurement of resistance in a transverse magnetic field. The applicability of the method was verified by several measurements using specimens of ferrosilicium containing 97.70% silicon.

Cerd : 1/1

HUNGARY/Electronics .. Photocells and Semiconductor Device.

H.

Abs Jour : Ref Zhur - Fizika, No 7, 1959, 15979

Author : Gombay, L., Grulai, J., Heves, I.

Inst : The University, Szeged, Hungary

Title : Preparation of Pressed Photocells from CdS Powder

Orig Pub : Acta Phys. et chim. Szeged, 1958, 4, No 1-2, 30-34

Abstract : The authors have prepared an investigated valve CdS photocell. Powdered CdS was pressed into tablets 1.6 cm in diameter and 0.1 cm thick (weight 600 -- 800 mg), heated to 520° C and slowly cooled. Non-transparent metallic electrodes in the form of cones were deposited by evaporation. During the course of the preliminary experiment the authors have determined the optimum pressure in pressing and investigated the effectiveness of the electrodes made of various materials. Photocells

Card 1/2

- 95 -

HUNGARY/Electronics - Photocells and Semiconductor Device.

H.

Abs Jour : Ref Zhur - Fizika, No 7, 1959, 15979

with aluminum and gold electrodes were characterized by the following data: internal resistance in darkness approximately 30 megohms; when illuminated in 3,000 lux (color temperature 2800° K) the current was 1.6 microamperes and the photo emf 0.135 volts. The photocell has a narrow spectral characteristic with a maximum near 480 millimicrons and (unlike the CdS photoresistance) has almost no sensitivity at $\lambda < 600$ millimicrons. --
N.V. Vasil'chenko

Card 2/2

Distr: 4E20

27
Preparation of compressed photoelements from CdSe powder. G. Bános, L. Gombay, and I. Hevesi. (Univ. Szeged, Hung.). *Ann. Univ. Szegediensis, Acta Phys. et Chem. [N.S.]* 4, 97-102 (1958) (in German).—In the prepn. of compressed photoelements from CdSe powder, which is obtained by them, reaction, a barrier layer is formed. The CdSe is prepd. by passing H_2Se into an aq. soln. of $CdSO_4$ and collecting the reddish brown ppt. The H_2Se is prepd. by passing H over Se at 400° . The dehydrated CdSe powder is compressed into disks 1.6 cm. in diam. and 0.06 cm. thick. The photovoltaic effect originates at the front barrier layer of the cells investigated. George Molnar.

6
1-RDW
1

GOMBAY, L.

Distr: 4Ela 3 cys

31 Photoconductivity in sintered CdS layers. L. Gombay and M. Zolli (Univ. Szeged, Hung.). *Acta Univ. Szegediensis, Acta Phys. et Chem.* 5, 26-33(1959)(in German).—The fraction δ of photocurrent in the total current was measured in the steady state for layers of sintered CdS prepd. with and without Cl^- . The results fit the equation $\delta = \tanh E_0 Q$ better than the previously used $\delta = (E_0/b) \ln(1 + bQ)$, where Q is the intensity, E_0 is the initial slope in both equations, and $1/b$ is the value of Q where the slope is $E_0/2$. When Cl^- is present, the rise and decay curves are sharper. The presence of a strong background light intensity decreases δ , while a weak background increases δ .

John A. Hornmann—

GOMBAY, L.; LANG, J.; KISPETER, J.

Change of photoelectric current of double-dosed cadmium sulfide
photoconductors in the air and vacuum. Acta phys chem Szeged
10 no.1/2:23-30 '64.

1. Institut fur Experimentalphysik der Attila Jozsef Universitat,
Szeged.

KISPETER, J.; LANG, J.; GOMBAY, L.

Influence of electrical formation on cadmium selenide-selenium barrier layers of various thickness. Acta phys chem Szeged 10 no.3/4:85-90 '64.

1. Institut für Experimentalphysik der Atilla Jozsef Universität, Szeged.

GAPMASH, I. I., inzh.; GOMBERA, A. Ya., inzh.; PAVLENKO, I. I., inzh.

Mechanized painting of ingot molds and cores. Mekh.i avtom.
proizv, 18 no. 5:26-27 My '64. (MIRA 17:5)

GOMBERG, A., inzh.
~~CONFIDENTIAL~~

We uphold the suggestions made to reorganize the ship repair
system. Mor.flot 20 no.10:32 0'60. (MIRA 13:10)
(Ships--Maintenance and repair)

GOMBERG, A.M.; KLEVTSOV, Yu.V.

Automatic device for maintaining a given temperature in the
cooling system during stand testing of engines. Avt.prom. 27
no.11:45 N '61. (MIRA 14:10)

1. Ural'skiy avtozavod imeni Stalina.
(Thermostat)

GOMBERG, A.Ya., inzh; MIRUMIAN, M.M., inzh

Adjusting the KZR-1 protection assembly for rotors of synchronous
machines. Elek.sta. 29 no.9:80-81 S '58. (MIRA 11:11)
(Electric machinery, Synchronous)

GOMBERG, Aleksandr Yefimovich; PINTAL', Yu.S., red.; BORUNOV, N.I.,
tekh.n.red.

[Device for measuring ground connections] Izmeritel'
zazemleniia. Moskva, Gos.energ.izd-vo, 1961. 38 p.
(Biblioteka elektromontera, no.60). (MIRA 15:5)
(Electric measurements)
(Electric currents--Grounding)

GOMBERG, Aleksandr Yefimovich; MUSAELIAN, Erik Surenovich; LYAUER,
S.G., red.; BORUNOV, N.I., tekhn.red.

[Checking and testing of turbogenerators during their installation; secondary systems] Proverki i ispytaniia turbogeneratorov v protsesse montazha; vtorichnye ustroistva. Moskva, Gosenergoizdat, 1963. 87 p. (MIRA 17:3)

GOMBERG, D.L.

Thermotechnical computations for exterior walls with an
average solidity. Vod. i san.tekh. no.10:14 O '56. (MLRA ED:2)

(Heat engineering) (Walls)

Gomberg, D.L.

GOMBERG, D.L.

~~Single-stage reversed water supply system. Vod. i san. tekhn. no.12:~~
18-19 D '57. (MIRA 11:1)

(Water-supply engineering)

GOMBERG, D.L.

Calculating heating pipes according to standard plans.
Vod. 1 san. tekhn. no.8:11-12 Ag '58. (MIRA 11:9)
(Heating pipes)

GOMBERG, D.L.

Heat carriers for heating systems in day nurseries. Vol. 1 san. tekhn.
no.9:37 S '58. (MIRA 11:10)
(Hot water heating) (Radiators)

GOMBERG, D.L.

Computing local resistances in calculating interior water piping.
Vod.i san.tekh. no.7:33-34 J1 '59. (MIRA 12:9)
(Water pipes)

GOMBERG, D.L.

Specifications for materials used in interior sewerage. Vod. 1 san.
tekh. no. 11:35 N '59. (MIRA 13:3)
(Sewerage)

GOMBERG, D.L.

Technical and economical analysis of radiant heating systems for
three- to five-story residential buildings. Vod.1 san.tekh.
no.1:14-16 Ja '60. (MIRA 13:4)
(Dwellings--Heating and ventilation)

SHARYGIN, A.I.; PEYSAKH, I.I.; ISKAKOV, S.I.; MITROFANOV, V.N.; SHASTINA, Z.Ya.;
SHCHERBAKOV, I.M.; GOMBERG, I.B.

Information. Tekst. prom. 24 no.9:91-97 S '64.

(MIRA 17:11)

1. Direktor Voronezhskoy kordnoy fabriki (for Sharygin).
2. Nachal'-nik proizvodstvenno-tekhnicheskogo otdela upravleniya legkoy promyshlennosti Soveta narodnogo khozyaystva Moldavskoy SSR (for Peysakh).
3. Nachal'nik konstruktorskogo otdela Spetsial'nogo konstruktorskogo byuro Yuzhno-Kazakhstanskogo Soveta narodnogo khozyaystva (for Isakov).
4. Nachal'nik konstruktorskogo sektora Spetsial'nogo konstruktorskogo byuro Yuzhno-Kazakhstanskogo sojeta narodnogo khozyaystva (for Mitrofanov).
5. Nachal'nik Byuro tekhnicheskoy informatsii Melekesskogo l'no kombinata (for Shastina).
6. Glavnyy inzh. Khersonskogo khlopchatobumazhnogo kombinata (for Shcherbakov).
7. Nachal'nik tekhnicheskogo otdela Khersonskogo khlopchatobumazhnogo kombinata (for Gomberg).

GOMBERG, I.G.

Exchange of goods as an aspect of economic relations between a city
and a village at the present stage of the communist program. Trudy
KTIPP no.20:97-105 '59. (MIRA 13:12)
(Economic policy)

GOMBERG, M. (g.Kiyev)

Ballistic resonance indicator. Radio no. 4460 Ap '60.

(MIRA 13:8)

(Resonance)

USSR/Engineering - Magnets, Permanent
Magnetometers Apr 50

"Small-Dimensional Instrument for Testing Permanent
Magnets," M. I. Gombere, S. V. Leushchenko, Kiev
Elec Instr Plant, 1 1/2 pp

"Zavod Lab" Vol XVI, No 4

Describes new-type magnetometer based on principle of
needle-indicator dynamometer. Instrument has disad-
vantage common to all devices of this type: Readings
have absolute meaning only for shape and dimensions of
magnetic ore for which instrument has been calibrated.

160740

USSR/Engineering - Magnets, Permanent
(Contd) Apr 50

Has some good qualities: low sensitivity to shock
and jerks, absence of cores, agate bearings and parts
made of special magnetic materials; no polarity of
readings, and latter do not depend on external mag-
netic fields.

160740

GOMBERG, M. L.

Errors in weighing which occur in determining the moisture of
hygroscopic products. Standartizatsiia 24 no.6:36-38
Je '60.

(MIRA 13:7)

(Moisture—Measurement)

GOMBERG, M.L.

Errors in determining the moisture content of grain products.
Standartizatsiia 25 no.9:40-43 S '61. (MIRA 14:9)
(Grain) (Moisture--Measurement)

GORLANOV, I.V.[deceased]; GOMBERG, M.Ye.; GINZBURG, P.S.; GOL'DENGERSHEL',
I.I.; MITEL'MAN, Ye.L., kand.ekon.nauk, retsenzent; TKACHUN, A.I.,
red.izd-va; SOKOLOVA, T.F., tekhn.red.

[Financing, credit and payments; reference manual for those
working in the machinery industry] Finansirovanie, kreditovanie
i raschety; spravochnoe posobie dlia rabotnikov mashinostroeniia.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959.

351 p.

(MIRA 13:3)

(Machinery industry--Finance)

RUSAKOV, A.B.; GOMBERG, N.M.

Isolated lymphogranulomatosis of the large intestine. Vest.
khir. 82 no.4:121-122 Ap '59. (MIRA 12:6)

1. Iz N-skogo goospitalya.
(HODGKIN'S DISEASE)

GOMBERG, S. L., ZLOCHEVSKIY, G. S.

Dust - Removal

Dust collecting valve for centralized dust collecting systems. Biul. stroi. tekhn. 9
no. 6, 1952.

Inzh.; Giprogorstroyproyekt

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED

NECHAYEV, A.A.; GOMBERG, V.S.; KUZNETSOV, V.F.

Technology of a system for the purification of drilling
mud. Trudy KNII NP no.17:55-66 '62.

Experimental investigation of the hydrocyclone purification
of drilling mud. Ibid.:67-87 (MIRA 17:8)

NECHAYEV, A.A.; GOMBERG, V.S.; KUZNETSOV, V.F.

Technology of a system for the purification of drilling mud.
Trudy KNII NP no.17:55-66 '62.

Experimental investigation of the hydrocyclone purification
of drilling mud. Ibid.:67-87 :
(MIRA 17:8)

GOMBERG, Ya., inzhener.

Moving sacked grain products at the Riga branch of the All-Union
Office for Storage and Distribution of Grain. Muk.-elev.prom. 20
no.5:8-9 My '54.
(MLRA 7:7)

1. Rishakaya realizatsionnaya baza Zagotzerno.
(Riga--Grain--Transportation) (Grain--Transportation--Riga)
(Fork lift trucks)

GOMBERG, Ya.

Minimum relays in electric block systems used in truck-battery charge stations. Muk.-elev.prom. 21 no.10:12 0 '55. (MIRA 9:1)

1. Rizhskaya realizatsionnaya baza Zagotzerno.
(Electric relays) (Storage batteries)

GOMBERG, Ya.

Electric control panel for a truck battery-charging station. Muk.-elev.
prom. 23 no.1:28-29 Ja '57. (MLRA 10:5)

1. Rishskaya realizatsionnaya baza.
(Electric batteries)

GOMBERG, Ya.

Basic principles of work distribution among employees
according to the degree of its complexity. Biul.nauch.
inform.: trud i zar.plata 3 no.4:21-27 '60.
(MIRA 13:8)

(Division of labor)

GOMBERG, Ya.

On the problem of using piecework and hourly wage systems. Sots.
trud 5 no.9:51-56 S '60. (MIRA 13:10)
(Wages and labor productivity)

COMBERG, Ya.

Methods for classifying the work performed by engineers and
technicians according to its complexity. Sots.trud 7 no.3:
76-81 Mr '62. (MIRA 15:3)
(Job descriptions) (Technicians in industry)

GOMBERG, Ya.

Developing data forms and systems in connection with technological progress. Vop. ekon. no. 11:39-48 N (6).

(MIRA 17:2)

VASIL'YEV, Aleksey Leonidovich; GLOZMAN, Moisey Kalmanovich;
PAVLINOVA, Yevgeniya Alekseyevna; FILIPPEO, Maksim
Valentinovich; GOMBERG, Ye.M., inzh., retsenzent;
KOROTKIN, Ya.I., kand. tekhn. nauk, retsenzent;
KONTOROVICH, B.M., nauchn. red.; KLIORINA, T.A., red.

[High-strength corrugated ship bulkheads] Prochnye sudovye gofrirovannye pereborki. [By] A.L.Vasil'ev i dr.
Leningrad, Sudostroenie, 1964. 315 p. (MIRA 18:3)

GOMBI, R.

Dynamics of the human electrosubcorticogram in light and sound stimulation. Fiziol.zhur. 50 no.6:669-680 Je '64.

(MIRA 18:2)

1. Otdel prikladnoy neyrofiziologii cheloveka Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

GOMBI, Roza, dr.; HULLAY, Jozsef, dr.

Intracranial metastases. Ideg. szemle 13 no.10:306-319 0 '60.

1. A debreceni Orvostudományi Egyetem Ideg-Elmeklinikájának
(igazgató: Dr. Juhász Pál egyet. tanár) közleménye.
(BRAIN NEOPLASMS)

GOMBI, Rosa, dr.; HULLAY, Josséf, dr.

Experience with urevert. Surgical observations. Ideg. szemle
14 no.1:9-14 Ja '61.

1. A Debreceni Orvostudományi Egyetem Ideg- Elmeklinika
(Igazgató: Dr. Juhász Pál egyetemi tanár) közleménye.
(INTRACRANIAL PRESSURE)
(UREA ther)
(HEXOSES ther)

GOMBINER, B. Ya.

AID P - 1124

Subject : USSR/Mining

Card 1/1 Pub. 78 - 2/25

Author : Gombiner, B. Ya.

Title : Simplification of planning in oil recovery trusts

Periodical : Neft. khoz., v. 32, #11, 7-10, N 1954

Abstract : The author proposes some simplification in the present complicated procedure calling for three stages of production planning and approval at various administrative levels.

Institution : None

Submitted : No date

GOMBINER, B. Ya.
SALIMZHANOV, E.S.; GOMBINER, B. Ya.; ABDULLIN, R.A.

Effectiveness of submersible electric-driven centrifugal pumps in
the Tuymazy oil fields. Neft.khoz. 34 no.10:17-21 0 '56.

(MLRA 9:11)

(Tuymazy--Oil well pumps)

GOMBINER, B.Ya.

Measuring the effectiveness of edge-water drive. Azerb.neft.khoz.
35 no.7:42-45 J1 '56. (MLBA 9:12)
(Oil wells--Equipment and supplies)